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*House Higher Education Committee Request for Information, Charge 4*

*University of Houston System*

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Chairman Turner and Members,

Thank you for the opportunity to provide information related to the prevalence of online courses and degrees in higher education. The following is the University of Houston System's responses to the committee's questions.

**What are the existing barriers to online learning for students and faculty? What have institutions done to alleviate and eliminate these barriers?**

For a relatively small percentage of faculty and students at UH, barriers include access to software, hardware, and reliable internet to complete their work from home. Some faculty also have health concerns, and students have both financial and health concerns. In some cases, there are personal issues with a family's lack of daycare or school for their children, which may be compounded with care for elderly members of the family.

UH has a long history with online learning, with the first online courses being developed in the 1990's. Since that time, UH has created a wealth of online courses, primarily for its traditional student population. Most of these courses are not part of online degree programs, and they have been taught by the same faculty as our face to face courses, with the same learning objectives and degree of difficulty as our face to face courses. These online courses have afforded our traditional students the convenience of taking one or more courses each semester from a distance, and this has created convenience for our many of our students who commute 30 minutes or more each way every day to campus and work part time jobs away from campus. By

the start of FY 2020, over 60% of UH undergraduates were taking at least one online course each semester, and as a result, many of our faculty and students already had some experience with online instruction.

In addition, during the past several years, digital instruction has slowly worked its way into traditional face to face courses at UH, and nearly 75% of face to face instructors at UH request course shells in the University LMS prior to the start of the semester. These LMS course shells allow them to post learning materials, give online assignments, and facilitate discussion in online forums. Since the time of hurricane Harvey, in 2017, the faculty at UH who have not requested course shells, have been given emergency course shells, designated instructional continuity (IC) shells in the university's learning management system (LMS) during the first week of classes. These course shells are created so that online components of courses can continue in the event of an emergency, like the one encountered in the spring of 2020.

In addition to the measures outlined above, the Provost's office directed its division of Education Innovation and Technology (EIT) and its office of Instructional Support (FDIS - the central instructional design office), to create online tutorials for UH faculty to help them learn about the latest tools to augment their face to face courses with online materials, or to improve their ongoing online instruction. These materials have been updated and housed at <https://instruction.uh.edu>, and in addition, FDIS has held regular trainings (both online and face to face) for faculty. For the past several years, the Provost has funded two conferences per year, focused on online instruction, and awarded many faculty mini-grants associated with online instruction and the development of new online learning materials. In addition, in 2018 the Provost's office created the division of Faculty Engagement and Development (the FED), to promote, support and foster a culture of excellence through comprehensive development of UH faculty. The mission of the FED was multifaceted, with one component including best practice presentations by faculty who excel in the classroom.

From the technology side, in fall 2019, UH Information Technology (UIT) and EIT provided Zoom licenses for interested faculty and staff, to encourage more online meetings, office hours, lecture recordings, etc. Also in fall 2019, UIT began to make TEAMS (a Microsoft online meeting and collaboration tool), and STREAM (a Microsoft video recording service) available to all faculty, staff and students at UH. The pandemic expedited the roll-out of this software, and many faculty and staff have taken advantage of the trainings offered jointly by Microsoft, UIT and EIT to learn how to communicate and collaborate online with students, to present and record instructional videos, and caption video content. The UH community was particularly fortunate that Microsoft consultants were able to provide comprehensive TEAMS/Office365 training in April and June of 2020, where 1,000 faculty and staff attended the live online training sessions, and countless others watched the training recordings. In addition, FDIS increased their trainings, beginning in March 2020, and the instructional designers held virtual office hours through TEAMS almost daily since late spring. During this same time, university administration and UHIT developed a laptop loaner program for students in need, and developed a Covid-19 website and call center, to help students deal with internet issues, and help them learn about availability of low cost internet through vendor service providers.

In May of this year, UH administration made a strong commitment to provide additional training for HyFlex and online instruction, in preparation for the fall of 2020 semester. To this end, the Provost's office formed the HyFlex Committee led by the FED, in partnership with members of the Faculty Senate, exceptional faculty experienced with online instruction, EIT, instructional support staff, and UIT. The HyFlex Committee developed a "Guide to HyFlex and Online Teaching Best Practices" as a comprehensive resource for UH faculty. FDIS and the Provost's office of Online and Special Programs (OSP), developed the Power-On website (<https://uh.edu/power-on>) to house this guide, and serve as a central resource to assist less experienced faculty and students with their transition to both HyFlex and online teaching and learning. This site leveraged a wealth of content at <https://instruction.uh.edu> (mentioned above), where viewership from faculty and staff increased from 1,770 clicks for the month of July 2019, to 13,250 in July 2020. The peak was over 21,000 in March 2020.



During July 2020, the FED and the HyFlex Committee offered over a month of daily online live workshops to better prepare faculty for HyFlex and online teaching. The topics included:

- Essentials of Online and Hyflex Teaching
- Learning Objective and Big Picture
- FDIS Resource and Course Requests
- Developing and Sharing Your Course Materials
- Accessibility
- Delivering and Streaming Your Lectures
- Assessing Students
- Engaging Students
- Lab and Clinical Considerations

Nearly 850 faculty and teaching assistants participated in these workshops, and many continue to view the recordings from the sessions outlined above.

In addition to these trainings, massive efforts were made by colleges to provide discipline-specific trainings for their faculty, focused towards the goal of student success during the latter portion of the spring 2020, summer 2020, and the coming fall semester. In spring 2020, the Provost's office required all UH teaching evaluations to include three questions to determine

whether students felt our faculty were offering them the quality of instruction they deserved. The table below lists the questions, along with data on the responses from students. Student responses were given on a scale of 1-5, with 5 representing best possible. Nearly 80% of student responses were 4 or 5.

Item	N	Mean	StdDev
The curriculum changes made to the course during the remote learning period enabled me to continue learning during the COVID-19 pandemic.	78,422	4.192	1.03
The online learning tools used in this course were sufficient for me to continue learning during the COVID-19 pandemic.	78,274	4.186	1.03
The assessment methods (e.g., tests, quizzes, assignments) used in this course during the COVID-19 pandemic were appropriate.	78,147	4.208	1.03

**What information and data are available regarding long-term student success for those taking courses primarily online -- both in general and specific to Texas institutions?**

While UH teaches many online courses, most of these are courses offered for student convenience in traditional degree programs. Prior to Covid-19, UH was expecting to teach 330,000 student credit hours in online courses for FY 2020. A relatively small number of these online courses were taken in actual online degree programs, and although the University has over 30 online degree programs (see <http://uh.edu/online>), only 3 of these programs are offered exclusively online. In the other programs, the students can take all of the courses online, all of the courses face to face, or take a mixture of face to face and online. So far, nearly all of the students have taken a mixture of online and face to face. The three degree programs that have been offered exclusively online are the Masters in Hospitality Management from the College of Hotel and Restaurant Management, the Masters in Health Science Education from the College of Education, and the Masters of Arts in Mathematics from the College of Natural Sciences and Mathematics. These latter three degrees are taken by professionals in hotel and restaurant management, and educational instruction. The programs have reported that their graduates have continued in their current professions, and used the additional credentials to afford them increases in pay and responsibility.

**With institutions having shifted instruction to online-only in the Spring of 2020 because of the pandemic, what lessons have been learned?**

UH never envisioned that the portion of its faculty who had been teaching primarily face to face, and desired to continue teaching this way, would ever need to have training so that they could teach online, or at least have solid understanding of instructional video recording, video captioning, development of electronic assessments, and online meeting tools. It is abundantly clear that the university would have benefited from mandatory training for all faculty, regardless of their teaching preference. The university would have also benefited from a more rapid

progression to tools such as Zoom and TEAMS from UIT, prior to FY 2020, and their use to improve faculty, staff and student communication. In addition, most university functions prior to spring 2020 relied heavily on face to face interaction, including student orientation, student advising, financial aid, etc. In hindsight, every university office would have benefited from training using online communication tools prior to that time, and having protocols in place for this type of scenario. Of course, hindsight is always clear. With this said, it is a tribute to the faculty and staff at UH that all of our offices transitioned to online, and heading into the fall 2020 semester, we have great confidence in our ability to operate in this venue. All student orientations, financial aid consultations, advising, etc. were handled online during summer 2020, along with all faculty and staff meetings and trainings, along with all undergraduate and graduate instruction. With respect to instruction, course enrollment in summer 2020 was 30% higher than in any previous summer semester, which again is a tribute to our students and faculty.

**What are the challenges related to technology, quality, accessibility or other considerations? The Committee is seeking the perspectives of college/university administration, faculty and students.**

We have entered a new era of interaction between faculty and students, and universities will need more feedback from both faculty and students than ever before. Our IT infrastructure and software will be challenged, and universities will be forced to develop new communication protocols. Exam integrity will be a much different issue than it has been in the past, and our faculty will have to be increasingly creative in the design of assessments, and the use of software tools used for online exam proctoring, and detection of plagiarism.

High quality faculty instructional training will play a more prominent role, and new measures of instructional quality assurance will need to be developed. Faculty will need to be better trained to deal with accessibility issues, and universities will have to work more closely with their faculty to develop agreements associated with ownership of faculty created course content. Leadership will play a huge role in the success of these issues.

Society will be taking a much harder look than ever at the quality of college education, and universities will respond to their challenges, or risk losing credibility. In addition, universities will have to institute improved online tools to facilitate appropriate placement, and both academic and career advising to help guarantee student success.

**Post-pandemic, will the recent shift to online courses lead to expanded online demand and capacity?**

Without question, the recent shift will lead to expansion in online demand. Many UH commuting students expressed in the spring of 2020 that they had much more time available to study, now that they weren't spending so much time driving to campus and searching for parking. This does not mean students will not continue to seek face to face instruction. There is no doubt that the vast majority of our students will continue to prefer face to face instruction in the majority of their classes. But their exposure to the convenience of online instruction, and their success learning in an online environment, will lead them to enroll in an increased number of online courses to help manage the delicate balance between their education, their jobs, and their personal lives.

## **How can the Legislature address gaps in equity in accessing reliable, affordable Internet access?**

It will be increasingly important for students who do not live on campus to be able to secure reliable high speed internet access, and use financial aid to help pay for these services. In addition, to level the educational playing field, it will be important to make sure that every student has access to the computers, webcams, and software that will help guarantee their success. In the past, students have been able to rely on university computer labs, and freely available campus wireless. The uncertainties associated with Covid-19, and any future pandemics, require action that guarantees a level playing field for all students, outside of the support of campus facilities.

## **What sort of differences in quality are we seeing for online nursing programs without a clinical component versus those that do have one or are done in person?**

While on-line learning is extremely important for pedagogy and clinical teaching, it is an adjunct to such learning for the nursing profession. Most every nursing program has on-line components in their curriculum. The definitions of “on-line” must also be quantified in numbers of semester credit hours and actual clock hours. There are different definitions according to the THECB, Homeland Security with SEVIS, Texas Board of Nursing and even the University of Houston. One definition would help the conversation with regard to “on-line” or distance education.

Regardless, nursing as a professional “hands on” vocation must have direct patient care clinical learning experiences. The Texas Board of Nursing approves and regulates nursing education in the state of Texas. [https://www.bon.texas.gov/education\\_programs.asp](https://www.bon.texas.gov/education_programs.asp) “Texas approved nursing programs that utilize distance education accommodate the clinical practice through scheduling practice experiences for students in nursing skills and simulation laboratories AND faculty-supervised hands-on care with actual patients.”

([https://www.bon.texas.gov/pdfs/education\\_pdfs/education\\_nursing\\_guidelines/4.4JointGuidelines/4\\_4.pdf](https://www.bon.texas.gov/pdfs/education_pdfs/education_nursing_guidelines/4.4JointGuidelines/4_4.pdf))

Nursing programs that are not from Texas may not have the same approval for educational rigor should a person elect to enroll in such an out-of-state program.

The differences in quality we will see for online nursing programs without a clinical component versus those that do have one, or are done in person, are listed below.

### **A. Accreditation:**

All nursing programs that are accredited by the Commission on Collegiate Nursing Education must have a clinical component according to Standard II, Key Element III-H. It states:

“III-H. The curriculum includes planned clinical practice experiences that:

- enable students to integrate new knowledge and demonstrate attainment of program outcomes;

- foster inter-professional collaborative practice; and
- are evaluated by faculty.

Elaboration: To prepare students for a practice profession, each track in each degree program and each track in the post-graduate APRN certificate program affords students the opportunity to develop COMMISSION ON COLLEGIATE NURSING EDUCATION 17 professional competencies and to integrate new knowledge in practice settings aligned to the educational preparation. Clinical practice experiences include opportunities for inter-professional collaboration. Clinical practice experiences are provided for students in all programs, including those with distance education offerings. Clinical practice experiences align with student and program outcomes. These experiences are planned, implemented, and evaluated to ensure students are competent to function as members of inter-professional teams at the level for which they are being prepared.

Programs that have a direct care focus (including, but not limited to, post-licensure baccalaureate and nurse educator tracks) provide direct care experiences designed to advance the knowledge and expertise of students in a clinical area of practice.”p.16-17

<https://www.aacnnursing.org/Portals/42/CCNE/PDF/Standards-Final-2018.pdf>

B. Employers:

Employers are robust in their descriptions of graduates who come from “on the ground” vs “online” nursing programs. They place the applications for “online” programs at the bottom of the stack of applicants to open positions in their healthcare facilities. They much prefer the quality of the graduates from “on the ground” nursing programs.

C. University Employers:

We see a difference in the capabilities of the nurse who does not have the clinical experience or teaching experience. The nurse must have a clinical specialty at the graduate level and actual teaching experience to function as a nursing faculty member. Many on-line programs are lacking in both.

D. Graduate Students:

Our graduate nursing program sees a difference of quality in the applicants. We ask that applicants to the graduate program have a year of experience in nursing as a bachelor’s prepared nurse. A RN-to-BSN program without clinical patient care is very difficult for the student to matriculate to the graduate program. They do not have the clinical judgement or skills to perform at a beginning graduate level if they come directly from a program without clinical patient care.

E. Lack of Clinical Learning:

Imagine if there is not actual patient care in a clinical learning environment after the Associate’s Degree in Nursing. If the RN-to-BSN program does not require clinical patient care, the MSN program does not require clinical patient care, then we could have PhD nurses whose last clinical patient care learning experience was at the ADN level.

F. Curriculum Guidelines:

The standard in using distance learning technologies must meet the same academic program and learning support standards for accreditation for face to face. When a program does not meet the standards then the quality of the program is diminished. <https://www.aacnnursing.org/Education-Resources/Curriculum-Guidelines>

**What sort of privacy exists for students utilizing some of the more popular online curriculum packages?**

Students are guaranteed a reasonable amount of privacy at UH, as the platforms we adopt undergo thorough UIT security screening to guarantee FERPA compliance. As an example, the screening process for consideration of building blocks for our Blackboard Learn LMS can be viewed at <https://uh.edu/blackboard/faculty/building-blocks/> . UH's commitment to student privacy is also demonstrated through its required FERPA training and testing for all faculty and staff each year.

**Has recently adopted legislation on Open Educational Resources been able to make an impact on the quality of online education yet?**

Recently adopted legislation on open educational resources (OER) has begun to make an impact on the quality of online education by supporting the university's ongoing efforts to increase the use of OER. The grant program established by SB 810 provides an opportunity for UH faculty to develop courses using only OER. In promoting and discussing the grant with faculty, it is clear that the availability of this grant has raised awareness about the importance of OER and generated interest in developing courses that use only OER. Course markings required by SB 810 allow students to access textbook information that informs their enrollment decisions. The state repository resulting from HB 3652 will help ensure that OER created by UH faculty are discoverable and broadly available for use; as discoverability has not yet been a focus of OER efforts at UH, the upcoming state repository will lead to improvements in this area. The legislation signals the priority level of OER for improving the quality of higher education in Texas and supports the OER program at UH, which has led to significant student savings from textbook costs and improved access to course materials.

The University of Houston Libraries offers the Alternative Textbook Incentive Program (ATIP) for faculty to adopt OER for their curricula. Award recipients are expected to replace required traditional text(s) in a course with adoption, adaptation, or creation of an open textbook or other open resource(s); or assembly of freely available or library sponsored resources. Use of open or freely-available resources as the required course materials ensures that all students have immediate access to the content, allowing them to be prepared on the first day of class and stay enrolled. In addition to the incentive program, UH Libraries supports OER adoption, adaptation, and creation through consultations and workshops.

The number of faculty who have participated in OER adoptions that you are aware of. Faculty OER adoptions have increased with the implementation of the Alternative Textbook Incentive Program, which launched in 2018. Since then, 58 UH courses have been awarded, with 73 participating faculty/instructors. Some of these courses replace traditional textbooks solely with library resources, however, most rely partly or entirely on OER. An instructor textbook survey in 2018 identified an additional 75 faculty using OER or library resources across 8 colleges, indicating awareness and use of OER across campus outside of the scope of the incentive program.

UH faculty engage in a wide array of OER projects, including adoption, adaptation, and creation. Of the known OER projects awarded through ATIP, 27 involve the adoption of OER and/or library materials, 9 involve authoring or creating new OER, and 22 involve a combination of adopting, adapting, and/or creating open resources. When adopting OER, it is most common for faculty to draw from multiple OER sources, or a combination of OER and library resources, rather than adopting a single open textbook for their course. When creating OER, faculty frequently build upon materials they have previously created for the course, rather than developing an open textbook, resulting in a wide spectrum of open resources used.

The OER program at UH has resulted in significant student savings by replacing traditionally required textbooks with OER and other freely-available materials. In the first two years of ATIP, 39 courses replaced commercial textbooks with freely-available resources, affecting approximately 6,383 UH students and resulting in an estimated \$863,902 in student savings from textbook costs. For the upcoming 2020-21 academic year, an additional 19 courses will impact approximately 3,352 more students, resulting in a projected \$426,556 in additional cost savings.

Qualitative analysis of ATIP project reports show positive perceptions of the impact of OER on teaching and learning. Instructors feel they have greater control over their course content, as they are better able to select appropriate resources and customize them to the course curriculum, and several mentioned the benefits of incorporating multiple perspectives and diverse voices. Students have improved access to course materials, and some faculty noted improvements in student preparation, engagement, and learning outcomes, which they saw in connection to increased access to materials. Recent feedback indicates that using OER was helpful during the transition to remote instruction due to COVID-19, as students already had online access to their course materials.

**Do small and rural community colleges have the financial capability to switch to online, as well as in-person, classes, degrees, etc.?**

N/A

**How does the impact of COVID-19 affect the small and rural community college's ability to offer online classes and make other changes to adapt to the pandemic?**

N/A